

**LONG PERIOD BRAGG GRATING OPTICAL SIGNAL ATTENUATION****ABSTRACT**

An apparatus in one example comprises one or more light sources, one or more long period Bragg gratings that are optically coupled with the one or more light sources, and one  
5 or more amplification fibers that are optically coupled with the one or more long period Bragg gratings. The one or more light sources send one or more pump optical signals to one or more of the one or more long period Bragg gratings. The one or more of the one or more long period Bragg gratings transmit the one or more pump optical signals to one or more of the one or more amplification fibers. The one or more of the one or more amplification fibers  
10 absorb one or more of the one or more pump optical signals and emit one or more output signals. The one or more of the one or more long period Bragg gratings attenuate one or more of the one or more output signals.